



US Army Corps
of Engineers.

DEPARTMENT OF THE ARMY PERMIT
FOR

SEISMIC RETROFIT OF THE RICHMOND-SAN RAFAEL BRIDGE

Permittee: California Department of Transportation (Caltrans)

Permit No.: 22065N

Issuing Office: San Francisco District, U.S. Army Corps of Engineers

NOTE. The term "you" and its derivatives, as used in this permit, means the permittee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

Authorized Work:

The Richmond-San Rafael Bridge (Bridge) in Contra Costa and Marin Counties, California will be seismically upgraded to withstand collapse from a major seismic event. The portions of the Bridge, located in Corps jurisdiction that will be upgraded include piers, foundations and columns. In addition, the west concrete trestle will be replaced using 100-foot long segments. Replacement of the west concrete trestle may require access dredging on the north and south sides of the Bridge for barge access. Temporary access structures (trestles) and/or work platforms will also be constructed within Corps jurisdiction to supplement barge access during construction.

Project activities that would result in the dredge or discharge of material into Corps jurisdiction include: excavating Bay sediments around pier bases; installing small and large diameter piles and filling them with concrete; installing pier strengthening elements such as tremie concrete-filled pre-cast concrete pile caps, steel casings around the side of pier bells, pre-cast concrete jackets, concrete shaft casings, extending diaphragm walls, strengthening grade beams/footings; backfilling around the pier bases with rock armor (over an excavated area approximately 0 to 10 feet deep and 10 feet wide); and potential dredging for barge access along both sides of the west concrete trestle section.

All work within Corps jurisdiction will be conducted from barges, from the Bridge structure, or from temporary work platforms or access trestles. Barges will be used during construction to move equipment throughout the entire project site in the Bay. Construction is anticipated to begin in July 1998 and extend to January 2001. The construction duration at the two-bell piers is estimated to be approximately 3 months per pier for foundation work and approximately 2 months per pier for tower work. The construction duration for the four-bell piers is estimated at approximately 4 to 6 months per pier for foundation and approximately 4 to 5 months per pier for tower work. Seismic retrofit construction will be conducted at more than one pier at a time. Replacement of the west concrete trestle section will require approximately two years to complete. Work will include installing new piles, pile caps, new bridge decks, and cutting off old piles at the mud line.

Temporary access trestles (temporary work platforms) and cofferdams will be constructed in Corps jurisdiction to facilitate construction access on the east end of the Bridge and one temporary access

trestle will be used at the west concrete trestle section. The remaining temporary trestles will be constructed so that no fill or excavation occurs within Corps jurisdiction. Minimum grading activities above the High Tide Line (HTL) (+4.6 NGVD) will be necessary to provide transitions from land to the pile-supported work platforms.

Bay sediments will be removed from hollow cast-in-steel shell piles and cast-in-drilled-hole piles before they are filled with concrete. All sediments, with the exception of the top six feet of material excavated at Piers 75 through 77 have been found suitable for aquatic disposal at the Alcatraz Dredged Material Disposal Site (SF-11) by the Dredged Material Management Office (DMMO). All suitable materials will be barged to SF-11 and disposed of according to the special conditions contained herein. The remaining materials deemed not suitable for aquatic disposal by the DMMO will be disposed of at an approved upland disposal site located outside Corps jurisdiction.

Permit Conditions:

General Conditions:

1. The time limit for completing the authorized work ends on 1 April 2003. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover a previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.
6. Consultation shall be initiated with the appropriate Federal agency pursuant to the Federal Endangered Species Act, as amended, for all listed proposed listed species potentially impacted by the project. As the designated non-federal representative, you shall notify the District Engineer and initiate consultation for all species that could be affected by project construction. This includes 1) species which become listed or proposed for Federal listing during project construction, 2) listed or proposed listed species that may be discovered within the project vicinity during project construction, or 3) listed or proposed listed species which may be present within the project vicinity

which were not previously considered to be adversely affected by the project. If such species are identified and project construction would affect the species, work affecting the species shall be halted until notified by the District Engineer that the requirements of the Endangered Species Act have been satisfied. Information on the location of threatened and endangered species and their critical habitat can be obtained from the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service.

7. Staging areas shall be confined to upland sites and/or barges.
8. No discharge of dredged or fill material into the waters of the United States may consist of unsuitable material (e.g., trash, debris) and material discharged must be free of toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).
9. Discharges of dredged or fill material into the waters of the United States must be minimized or avoided to the maximum extent possible.
10. No activity authorized by this permit may substantially disrupt the movement of those species of aquatic life indigenous to the waterbody, including those species which normally migrate through the area.
11. You must allow representatives from this office to inspect the project site at any time to ensure that work is being or has been accomplished in accordance with the terms and conditions of this permit.
12. A biological monitor shall be retained by Caltrans to perform weekly inspections of the project site for the duration of construction activities to ensure compliance with the terms and conditions of this permit. A log of all inspections shall be maintained by the monitor and be made available to the Corps upon request.

Special Conditions:

Substrate:

1. Dredging shall be confined to the smallest area necessary to perform work on the bridge.
2. All dredging requiring aquatic disposal shall be completed within 60 months of the onset of permit issuance.
3. At least 20 days prior to the commencement of dredging and disposal, Caltrans shall notify the Corps of the planned start and duration of dredging and disposal activities.
4. Caltrans must allow Corps to board the barge and observe the operations.
5. All dredge material not suitable for aquatic disposal (approximately 3,320 CY from Piers 71-77 and above mean high water between Piers 71-74) shall be disposed of at an approved upland location suited to receive the type of contaminants contained in the material.
6. Caltrans may not initiate upland disposal until written approval of the upland disposal location is provided by the Corps.

7. When dredging activities are being performed, dredge logs shall be submitted to the Corps for review on a weekly basis.
8. Dredging activities, not contained within coffer dams, in the eastern portion of the project area may occur within of the sensitive Pacific herring spawning season (November 15 through March 31) unless the Pacific herring hotline indicates that the herring have entered the Bay, and an in-field observation has been made which verifies that a spawn is occurring on or near the bridge which could be affected by dredging. If a spawn has occurred, open water dredging within a 650-foot radius of the spawn shall cease within 8 hours after the notification of the spawn. Work shall resume after the eggs are hatched (after approximately 14 days) as determined, in writing, by CDFG.
9. No open water suction dredging shall occur during the migratory season of the winter-run Chinook salmon (January 1 through May 31) in water shallower than 20 feet below Mean Lower Low Water using National Geodetic Vertical Datum (NGVD). (See Item 14)
10. No restrictions on clamshell dredging for the winter-run Chinook migratory season are required.

Erosion/Sedimentation:

11. Sealed cofferdams shall be used around all excavated areas at pier bases at all upland locations and in shallow Bay waters to minimize and/or prevent erosion, sedimentation, and contamination of surrounding. Sealed cofferdams shall be required at Piers 62, 63, 64, 65, 71R, 72R, 73R, 74R, 75, 75R, 76, 76R, 77, 77R (R = right piers on the south side of the Bridge).
12. All water removed from excavations, piles, and cofferdams shall be handled in accordance with National Pollution Discharge Elimination System (NPDES) Permit CAS029998 issued by the San Francisco Bay Regional Water Quality Control Board.
13. Suspended solids shall be removed during the dewatering operations from excavations, piles, and cofferdams to the extent that visible, floating products are not apparent within the discharge. Also, the discharge shall be of a visible purity such that turbidity and color beyond ambient levels are not apparent within the receiving water body. The turbidity, measured in Nephelometric Turbidity Units (NTU), of the discharge shall not be greater than a 10 percent increase of the background turbidity. The point of effluent discharge shall not result in the deposition of bottom sediments, loss of aquatic vegetation, or disruption of surface soils.

Water Quality:

14. To protect fish species, including the Pacific herring, winter-run Chinook salmon and steelhead trout, no open water suction dredging shall occur in water shallower than 20 feet between January 1 and May 31 in any year. Within sealed cofferdams and piles, there are no restrictions on dredge techniques. (See Item 9)
15. Clamshell dredging may proceed year-round provided herring spawning monitoring is performed according to herring spawning monitoring protocol (see special conditions related to Pacific herring below).

16. Any sunken debris resulting from project construction shall be temporarily marked with buoys and the removed at the earliest opportunity.
17. All requirements of the SWPPP shall be submitted to the Corps for review.

Wetlands (special aquatic site):

18. No work shall occur within designated ESA areas (Attachment 1)

Vegetated Shallows (special aquatic site-eelgrass bed):

19. Any activity that would adversely affect eelgrass bed habitat, including but not limited to pile driving, dredging and shading, shall be avoided to the maximum extent practicable.
20. To better quantify potential and actual impacts to eelgrass bed habitat, Caltrans shall conduct pre- and post- construction surveys for eelgrass within the boundaries shown on Attachment 2A-C.
21. Both pre- and post-construction surveys of eelgrass bed habitat shall be conducted using the following methodologies: side scan sonar, fathometer and diver surveys, etc. (as described in the Eelgrass Resources Assessment and Monitoring Plan dated March, 1998).
22. All viable eelgrass bed habitat found within the project boundary shall be mapped and the areal extent quantified in both pre- and post-construction surveys.
23. Parameters to be monitored in post-construction surveys and within transplant areas, if necessary, shall also include percent cover and density of eelgrass to be compared to pre-construction surveys of the potential impact and reference areas.
24. Pre-construction eelgrass bed survey maps shall be submitted to the Corps for review and written approval prior to the onset of project construction.
25. Maps of existing eelgrass bed habitat shall be included in the Caltrans Resident Engineer's (RE) file. Prior to the onset of project construction, the RE shall alert the contractor to the location of all eelgrass beds within the project boundary.
26. All eelgrass bed habitat that is lost and/or not successfully recruiting, shall be reported as adversely affected (impacted) in post-construction survey mapping and impact totals.
27. Post-construction surveys shall be conducted using the same survey area described for pre-construction surveys (above). As in pre-construction surveys, all viable eelgrass bed habitat found within the survey boundary (Attachment 2A-C) shall be mapped and the areal extent quantified. The quality of habitat as well as evidence of successful recruitment shall also be documented.
28. The Permittee shall replace all eelgrass bed habitat that has been adversely affected (loss by direct impact, reduced habitat quality over existing conditions or non-recruiting habitat) by the project.
29. Any decrease in eelgrass bed habitat shall be replaced at a minimum 1:1 ratio both in-kind and on-site.

30. If following two eelgrass transplanting trials in impact areas, eelgrass is not successfully recruiting, then Caltrans shall create suitable eelgrass habitat on the east end of the Bridge to offset remaining project impacts to eelgrass bed habitat. This shall be achieved by removing debris and asphalt-concrete along the east end of the Bridge (shoreline) in locations shown in Attachment 5. If a net loss of eelgrass bed habitat remains after debris and asphalt-concrete removal on the east end of the Bridge are performed, then additional suitable sites shall be identified for further debris removal. The additional sites shall be approved by the Corps before additional work is performed. Debris removal at alternate sites shall continue until all project-related impacts to eelgrass bed habitat are mitigated at a 1:1 ratio (see Eelgrass Mitigation Plan dated March 1998).
31. Prior to the onset of project construction, within the mapped eelgrass area as shown in Attachment 2A-C, Caltrans shall submit to the Corps for written approval, an eelgrass replacement mitigation plan. The plan shall describe techniques which could be used to restore and/or replace the eelgrass habitat. A bibliography of scientific articles describing the eelgrass restoration/mitigation techniques shall be included in the mitigation plan. No construction within the mapped eelgrass area shall occur until Caltrans receives the Corps' written approval of the eelgrass replacement mitigation plan. The eelgrass mitigation plan shall receive written Corps approval prior to the onset of project construction.
32. Photographs of the reference area and transplant sites shall be used if required for mitigation to assess overall habitat quality and eelgrass vigor. If it is not feasible to photograph each area then Caltrans shall propose a methodology to assess habitat quality at each site. The proposed methodology shall be developed in consultation with the Corps and approved by the Corps prior to implementation in the eelgrass mitigation monitoring program.
33. Along with the eelgrass mitigation plan, Caltrans shall develop contingency measures to be implemented in the event that the eelgrass bed replacement is unsuccessful. The contingency measures shall identify areas within the project vicinity that can be restored and colonized by eelgrass. The contingency measures shall describe the locations and measures implemented to provide such replacement habitat.
34. If impacts to eelgrass bed habitat occur, the eelgrass mitigation plan shall be implemented immediately following one full growing season after completion of the seismic retrofit project.

Harbor Seals:

35. Caltrans must cease seismic retrofit construction work from February 15 to July 31 on the bridge substructure, towers and superstructure between Piers 52 and 57, inclusive (Closure Period). Seismic retrofit work may occur from August 1 to February 14 on the Bridge substructure, towers, and superstructure between Piers 52 and 57 inclusive (Work Period). (Attachment 3)
36. No watercraft associated with construction activities shall be deployed during the year within the "exclusion zone" except when construction equipment is required for seismic retrofit construction between Pier 52 and 57, inclusive, and within the Work Period. The boundary of the exclusion zone is rectangular in shape (1700 ft. by 800 ft.) and completely encloses Castro Rocks and Piers 52 to 57, inclusive. The northern boundary of the exclusion zone shall be located 250 feet from the most northern tip of Castro Rocks and the southern boundary shall be located 250 feet from the most

southern tip of Castro Rocks. This exclusion zone shall be restricted as a controlled access area and shall be marked off with buoys and warning signs for the entire year. (Attachment 3)

37. Caltrans shall also minimize vessel traffic in the exclusion zone when construction activities during the Work Period.
38. Between 9 p.m. and 7 a.m., no piles may be driven on the bridge and construction noise may not exceed 86 dBA re 20 uPa at 50 feet (15 meters).
39. Biological monitoring of retrofit construction activities on harbor seals and California seal lions at Castro Rocks shall be conducted by one or more NMFS-approved monitors.
40. Caltrans shall monitor at least one additional harbor seal haul out, approved in advance by NMFS, within San Francisco Bay to evaluate whether harbor seals use alternative hauling out areas as a result of seismic retrofit disturbance at Castro Rocks
41. The monitoring shall be divided into the Work Period phase (August 1 to February 14) and the Closure Period phase (February 15 to July 31). During the Work Period phase and Closure Period phase, the monitor(s) shall conduct observations of seal behavior at least 3 days/week for approximately one tidal cycle each day at Castro Rocks.
42. The following data shall be recorded: (1) number of seals and sea lions on site; (2) date; (3) time; (4) tidal height; (5) number of adults, subadults, and pups; (6) number of individuals with red pelage; (7) number of females and males; (8) number of molting seals; and, (9) details of any observed disturbances. Concurrently, the monitor(s) shall record general construction activity, location, duration, and noise levels.
43. At least 2 nights/week, during both the Closure Period and the Work Period, the monitor shall conduct a harbor seal census after midnight at Castro Rocks.
44. The monitor(s) shall conduct baseline observations of seal behavior once a day for a period of five consecutive days at Castro Rocks and at the Yerba Buena Island and Mowry Slough (alternative sites) identified above, immediately before the initiation of construction between Piers 52 and 57, inclusive, in order to establish pre-construction behavioral patterns.
45. During the Work Period and Closure Period phases, the monitor(s) shall conduct observations of seal behavior at the alternative San Francisco Bay harbor seal haul out at least 3 days/week and 2 days/week, respectively during a low tide.
46. If seismic retrofit construction of the Bridge is completed within the Incidental Harassment Authorization (IHA) (issued December 16, 1997) period of validity, immediately following the completion of construction, the monitor(s) shall conduct observations of seal behavior at least 5 days/week for approximately one tidal cycle (high tide to high tide) each day, for one week/month during the months of April, July, October, and January. At least 2 nights/week, the monitor shall conduct an additional harbor seal census after midnight.
47. If seismic retrofit construction of the Bridge is not completed within the IHA period of validity, Caltrans shall consult with NMFS. Copies of all agreements subsequent to the consultation shall be

provided to the Corps.

48. Caltrans shall provide the Corps with a quarterly summary of reports submitted to the Southwest Regional Administrator, NMFS, including a summary of the monitoring activities. The quarterly summary shall include the following information:
- a) A detailed description of the monitoring protocol that was implemented;
 - b) A summary of the data gathered during monitoring (e.g. figures, tables, text, etc.);
 - c) An estimate of the numbers of seals and seal lions at Castro Rocks that may have been harassed as a result of seismic retrofit construction activities;
 - d) A description of observed or possible relationships between particular construction activities and seal and sea lion behavioral patterns at Castro Rocks both within and outside the closed period at Castro Rocks;
 - e) A comparison of observed harbor seal haul out behavioral patterns at Castro Rocks and harbor seal behavioral patterns at alternative sites in San Francisco Bay to assess possible effects of construction activities on harbor seal population dynamics in San Francisco Bay.

Peregrine Falcon:

49. The peregrine falcon monitor shall:
- a) Peregrine falcons shall be monitored at the Bridge site for the duration of the nesting season (February 1 through July 31) during each year that the retrofit construction is underway. The nest territory is defined as the Richmond-San Rafael Bridge from the toll plaza on the eastern end in Contra Costa County to the maintenance station on the western end of the bridge in Marin County (Attachment 4).
 - b) Peregrine falcon monitoring shall be performed from the bridge itself and by watercraft underneath the bridge.
 - c) All peregrine falcon monitors shall respect the watercraft exclusions area in the vicinity of Castro Rocks as specified in the Incidental Harassment Authorization issued for harbor seals by NMFS.
 - d) If there is productive nest activity within the monitored areas, the monitor shall determine if the seismic retrofit construction activities are sufficient to threaten the ability of the adult falcons to successfully hatch the clutch of eggs.
50. If the eggs are found on the bridge, they shall be removed by peregrine falcon monitors. If the eggs are threatened, the activity causing the threat shall be halted until the eggs are successfully removed from the bridge by the peregrine falcon monitor. Peregrine falcon eggs removed from the bridge shall be hatched under appropriate conditions (determined by the peregrine falcon monitor) and the birds later released at the hack site.
51. If the eggs are undisturbed and hatch on the Bridge, but the seismic retrofit construction activities become sufficient to threaten the ability of the adults to successfully fledge the young, or if the young appear destined to fledge into the water, the peregrine falcon monitors shall remove the hatchlings and later release them at the hack site.
52. In each of the seismic retrofit construction peregrine falcon nesting seasons, the peregrine falcon monitors shall release at least three young of the year peregrine falcons in the region within the distance that dispersing young could reoccupy the nest territory.

53. The peregrine falcon monitors shall also monitor other peregrine territories in a 150-mile radius of the Bridge to help meet FWS and CDFG goals needed to enable the delisting process under Section 7 of the Endangered Species Act of 1973 (as amended).
54. A schedule for peregrine falcon monitoring, including the dates, times and persons scheduled to conduct the monitoring, shall be submitted to the Corps prior to the onset of project construction. Contact names and phone numbers of persons scheduled to conduct monitoring visits and the person designated to oversee the peregrine monitoring program shall also be provided to the Corps.
55. Corps staff shall be allowed to accompany peregrine falcon monitors on all monitoring visits.

Double-Crested Cormorant:

56. During seismic retrofit construction, nests shall be removed from the Bridge according to the Wildlife Control Measures for Seismic Retrofit Projects (California Department of Fish and Game (CDFG), 1994).
57. Nest removal or erection of physical barriers to prevent nest building shall be implemented prior to and the onset of the breeding season.

Steelhead Trout:

58. No open water suction dredging shall occur in areas 20 feet below Mean Lower Low Water (MLLW) from January 1 through May 31 except in areas confined within coffer dams or pile casings.
59. Clam shell dredging does not pose a threat to migrating species, therefore, it may be used without any time restriction.

Pacific Herring:

60. Monitors shall be Caltrans Biologists (or other qualified persons) trained to identify herring spawns by California Department of Fish and Game personnel. Herring spawning monitoring shall be performed during the monitoring (November 15 to March 31).
61. Monitors shall consult the Herring Hotline (650-688-6355) daily from November 15 through March 31 to obtain information on potential presence of herring.
62. If the Herring Hotline indicates herring have entered the bay, monitors shall perform daily observations when sediment disturbing activities (such as open water dredging) are conducted within a 650 feet radius of potential herring spawning area, which is defined as in the intertidal zone (+3 to -6 feet MLLW) and areas surrounding pilings and piers.
63. Observers shall look for signs of an occurring spawn (milt in water; presence of birds feeding on herring eggs; seals and sea lions feeding on herring eggs; and presence of commercial fishing boats hauling in fish).
64. Observers shall notify the Caltrans Resident Engineer (RE) immediately upon observing the signs of a herring spawn within the project vicinity.

65. If so notified, the RE shall order the suspension of open water work that disturbs bay sediments in a 650 foot radius of the spawn for a minimum of 14 days or a duration specified by CDFG representatives.
66. If a herring spawn is identified and work halted, the CDFG representative shall be notified immediately.
67. Resumption of work (see special condition 8).

Dredging:

68. See special conditions attached on page 2A through 2D

Further Information:

Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

Limits of this authorization:

- a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

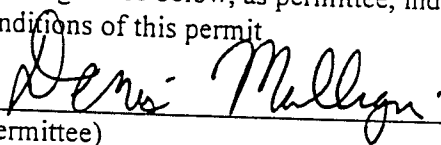
Reliance on Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information provided.

Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. Failure to comply with the terms and conditions of this permit.
- b. The information provided in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

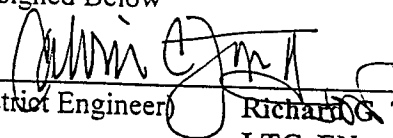
Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit


(Permittee)

April 15, 1998
(Date)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed Below


(District Engineer) Richard G. Thompson
LTC, EN

4-17-98
(Date)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(Transferee)

(Date)

SPECIAL CONDITIONS TO PERMIT NUMBER 22065N

1. To provide notification to the maritime community of activities affecting navigation, the permittee shall provide in writing to the Commander (POW), 11th Coast Guard District, Bldg 50-6, Coast Guard Island, Alameda, California 94501-5100, (POC: LT JG Dawn Salisbury, Aids to Navigation Section, PH:510-437-2982, FAX: 510-437-5836), the following information at least two weeks before commencing work:

- a. Name and telephone number of the project manager.
- b. Size and placement of any floating construction equipment.
- c. Radio telephone frequencies and call signs of any marine equipment.
- d. Work start and completion dates.

2. The Coast Guard Captain of the Port (COTP) of San Francisco Bay may require modifications to marine construction equipment deployment or mooring systems to safeguard navigation while work is in progress. Upon receipt of the notification to start, the Coast Guard will send a copy of the permittee's letter to the COTP for review.

3. All vessels operated for disposal of dredged material are required to participate in the Coast Guard's Vessel Traffic Control Service (VTCS). Five minutes before each departure, the permittee shall notify the VTCS by radio, via Channel 13, of the following: The permit number; name of vessel; dump scow number or identification; time of departure from dredge site; time of arrival at disposal site; time of departure from disposal site; and time of return to dredge site.

4. When utilizing the Alcatraz Disposal Site (SF-11), the permittee shall dispose of all dredged material within a circular area of radius 1000 feet and center at latitude 37°49'17"N; longitude 122°25'23"W. The specific location within the disposal area will be determined by the District Engineer upon receipt of the Dredging Operation Plan.

5. The permittee shall submit to Chief, Construction-Operations Division, ATTN: Regulatory Branch, U.S. Army Corps of Engineers, 333 Market Street, Suite 812, San Francisco, California 94105-2197, the following reports for review and comment:

- a. Dredging Operation Plan: Submit, for approval by this office, no earlier than 60 calendar days and no later than 20

calendar days before the proposed commencement of dredging, a plan which includes the following: Corps permit number, a copy of the dredging contract or description of the work under which the contractor will do the permitted work; name and telephone numbers of the dredging contractor's representative on site; dredging start and completion dates; names of vessel; dump scow numbers or identification; bin or barge capacities; identification of work as either maintenance dredging or new dredging; discussion of proposed dredging procedures, as governed under Special Condition No. 6, with detailed drawings or specifications of the grid or centrifugal pump system; quantity of material to be removed; dredging design depth and typical cross section including overdepth; and date of last dredging episode and design depth. The dredging Operational Plan shall also provide the following information:

- 1) The controls being established to insure that dredging operations occur within the limits defined by the channel dimensions and typical channel section. The horizontal and vertical positioning systems being utilized must be indicated as noted in No.3 below.
- 2) The controls being established to insure that disposal of the dredged material at the disposal site is at the assigned location and depth. The horizontal and vertical positioning systems being utilized must be indicated as noted in No.3 below.
- 3) Method of determining electronic positioning of dredge or dump scow during entire dredging operation at dredge site, disposal site and en route to and from disposal site.

Please note that failure to provide all of the above information may result in delays to your project. When your Dredge Operation Plan has been approved, you will receive a written authorization to commence with your project.

b. Before Dredging Survey: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of dredging, a survey with accuracy to one-tenth foot which delineates the following: areas to be dredged with overdepth allowances; existing depths; estimated quantities to be dredged for the project; and estimated quantities for overdepth. All surveys shall be signed by the permittee to certify their accuracy. Please include Corps permit number.

Please note that failure to provide all of the above information may result in delays to your project.

c. Solid Debris Management Plan: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of work, a plan which describes measures to ensure that solid debris generated during any authorized demolition or construction operation is retained and properly disposed of in areas not under Corps jurisdiction. At a minimum, the plan shall include the following: source and expected type of debris; debris retrieval method; disposal method and site; schedule of disposal operations; and debris containment method to be used, if floatable debris is involved.

Please note that failure to provide all of the above information may result in delays to your project.

d. Disposal Site Verification Log (DSVL): Submit on a weekly basis by noon Monday, the attached log (pages 1 & 2) which enumerates work accomplished during the preceding week to Corps of Engineers, Regulatory Branch at the above address or FAX # (415) 977-8483, Attn: Mr. David Dwinell. The VTCs will issue a confirmation number to be included in the weekly log. Please include the Corps permit number.

e. Overflow requirements:

1. During transportation from the dredging site to the disposal site, no material shall be permitted to overflow, leak or spill from barge, bins or dump scows.

2. During dredging operations, overflow shall be limited to a maximum of 15 minutes for hopper dredges only. Adjustments to the dredging operation may be required to insure that once overflow commences, it will not exceed the 15 minute limit.

3. In approved sand dredging, overflow will not exceed 15 minutes or the economic load, whichever occurs first.

f. Post Dredging Survey: Submit, within 15 days of the last disposal activity (last is defined as that activity after which no further activity occurs for 15 calendar days), a survey with accuracy to one-tenth foot which delineates the areas dredged and the dredged depths. Also, include the Corps permit number, dates of dredging commencement and the completion, actual quantities dredged for the project, and actual quantities of overdepth. The permittee shall substantiate the total quantity dredged by including calculations used to determine the volume difference (in cubic yards) between the Before and Post Dredging Surveys and explain any variation in quantities greater than 15% beyond

estimated quantities. All surveys shall be accomplished by a licensed surveyor and signed by the permittee to certify their accuracy. A copy of the post dredge survey should be sent to the National Ocean Service for chart updating: NOAA/National Ocean Service, Map and Chart Branch, (Attention: N/CG2211), SSMC3, Room 6211, 1315 East-West Highway, Silver Spring, Maryland 20910.

6. The permittee shall ensure that all dredged material is slurried prior to disposal to prevent any accumulation or build up of material at the disposal site. All dredged material shall be slurried in one of the following manners:

a. Dredged material will be either pumped with a centrifugal pump prior to leaving the dredge site for the disposal site; or,

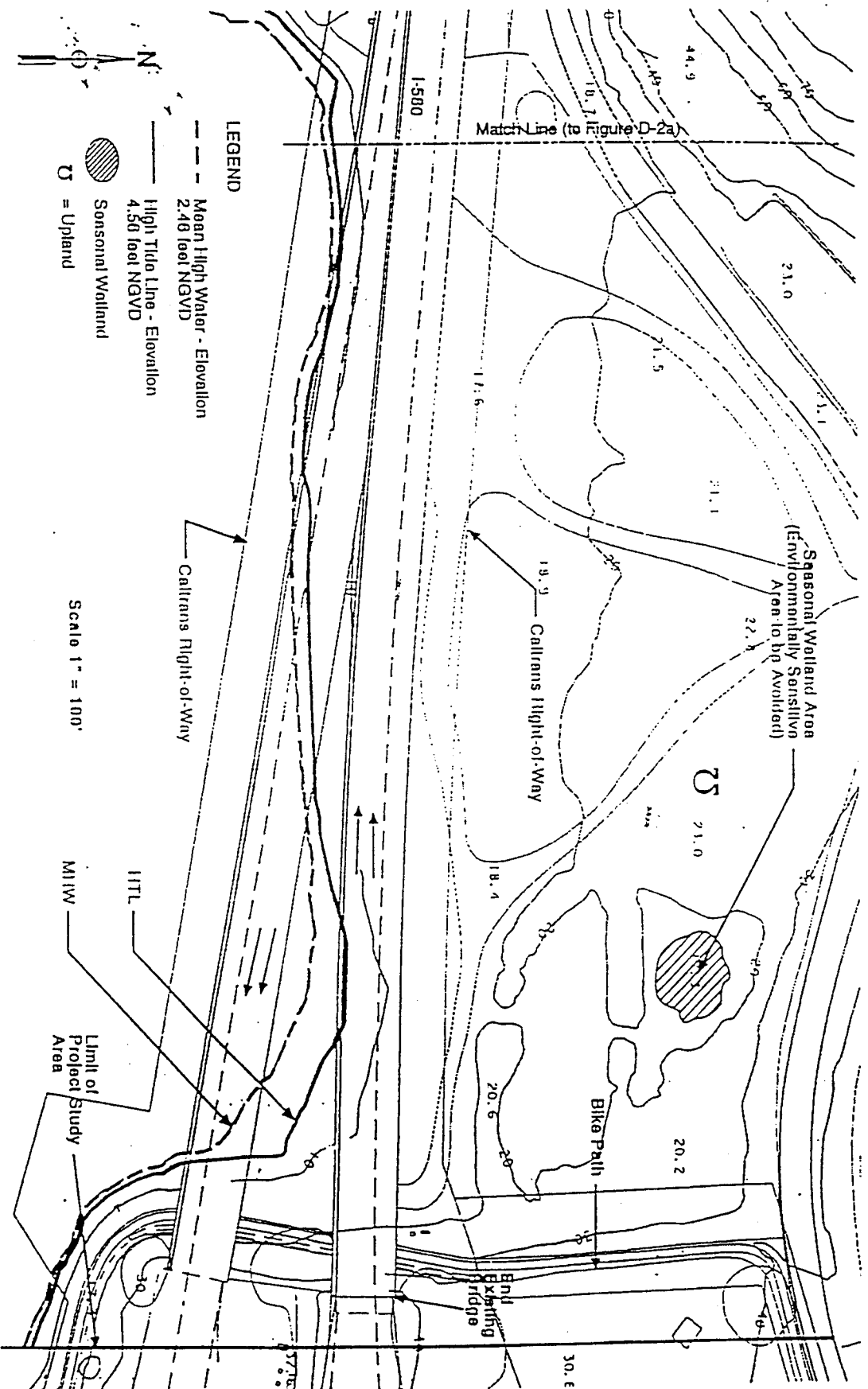
b. If the material is clamshell dredged, passed through a debris grid, with a maximum opening size of 12 inches by 12 inches which will cover the entire loading area of the dump scow. Everything that does not pass through the grid will be considered solid debris and shall be disposed of in areas outside of Corps jurisdiction. All such material shall be promptly removed from the grid at the end of each 8 hour shift or sooner.

7. The permittee or dredge contractor shall inform this office when the permitted dredge project actually commences, is suspended (suspension is when the dredge contractor leaves the dredge site for more than 48 hours for reasons other than equipment maintenance), is restarted and the actual date of completion. Each notification should include the Corps permit number. The information can be sent to the attention of Mr. Rob Lawrence, in writing to the Corps of Engineers, Regulatory Branch, at the above address; FAXed to (415) 977-8343; or via telephone message at (415) 977-8447.

8. The permittee, as directed by the District Engineer under authority pursuant to the policies and procedures of 33 CFR 325.7, may be required to modify disposal schedules and/or monthly disposal quantities for particular dredging episodes.

9. The permittee shall allow the dredging area and equipment to be inspected by the Corps staff upon request.

RICHMOND-SAN RAFAEL BRIDGE SEISMIC RETROFIT



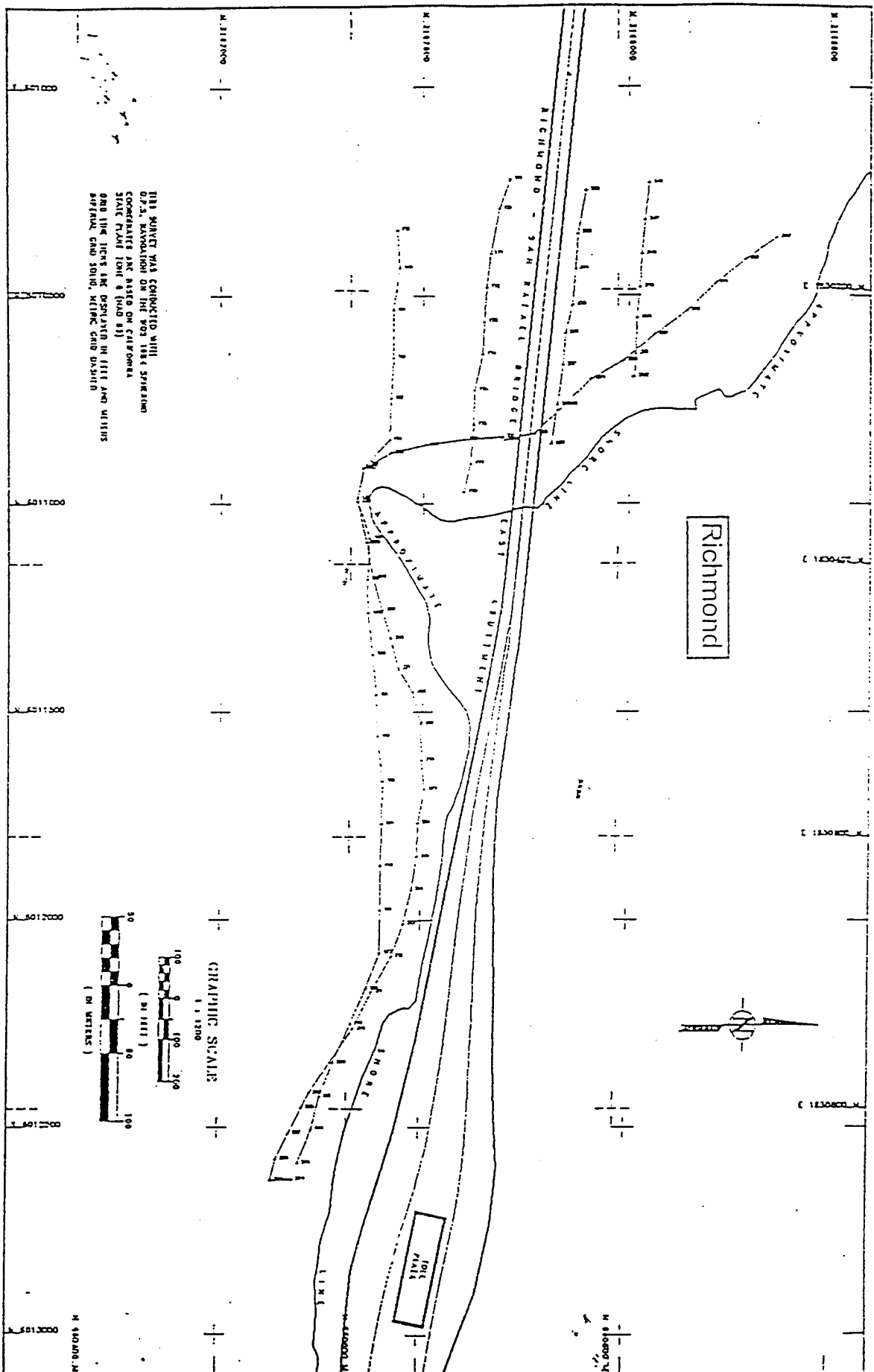
NATURAL ENVIRONMENT STUDY/BIOLOGICAL ASSESSMENT
Appendix D-2b
LIMITS OF POTENTIAL CORPS AND
BCDC JURISDICTIONAL AREA-EAST END

San Rafael

ATTACHMENT 2A

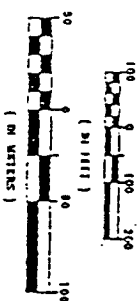
THIS SURVEY WAS CONDUCTED WITH
U.S. NAVIGATION ON THE MGS 1164 SPANMOND
STATE PLANE TOWNSHIP 12S (44E 03)

Figure 21



THIS SURVEY WAS CONDUCTED WITH
U.S. NAVIGATION ON THE VESSEL SPARKER
COORDINATES ARE BASED ON CALIFORNIA
STATE PLANT TOWNSHIP (44D 83)
AND THE TIES ARE DESIGNATED IN THE AND WITNES
APPROX. AND 3000, METRIC AND DASHED

GRAPHIC SCALE
1:1250



Side-scan Survey Tracklines for the East End Study Area
(Richmond-San Rafael Bridge East End Abutment) - August 1997
Richmond-San Rafael Bridge Seismic Retrofit Project

Side-scan Survey Tracklines for the East End Reference Area
(Point Melate Cove) - August 1997
Richmond-San Rafael Bridge Seismic Retrofit Project

HARBOR SEAL WORK RESTRICTION AREA

PLAN

- work exclusion zone

CONSTRUCTION DETAIL 8

NO SCALE

3-3

WORK RESTRICTION —
AREA LIMITS. PLACE
BUOYS 50' O.C., TYPE

CASINO ROCKS

[illegible]

The State of California, its officers and agents, shall be responsible to the community for the accuracy and completeness of information furnished by them and for the proper use of this form and the information contained therein.

REGISTERED CIVIL ENGINEER
John P. Davis 4/1/79

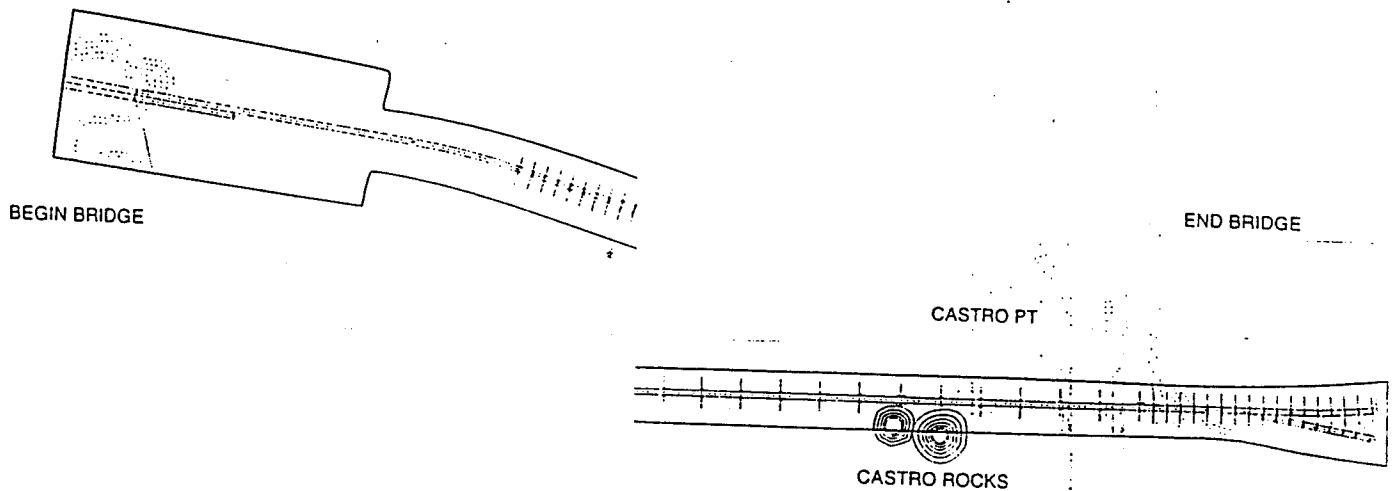
1131	COMER	ROUTE	PO BOX 1117	CHICO, CALIF.
04	CC. LYN	300	1014 - REDWOOD	NO. HEBERT
			5,474 S. GOWAN	

PLANS APPROVAL DATE _____
 JOHN P. DAVIS
 1111 HODGSON, SUITE 11200
 DALLAS, TEX. 75241 (409) 44831

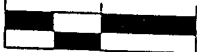
STATE OF CALIFORNIA
 CIVIL ENGINEERING BOARD
 JOHN P. DAVIS
 1111 HODGSON, SUITE 11200
 DALLAS, TEX. 75241

RICHMOND-SAN RAFAEL BRIDGE SEISM

ATTACHMENT 4

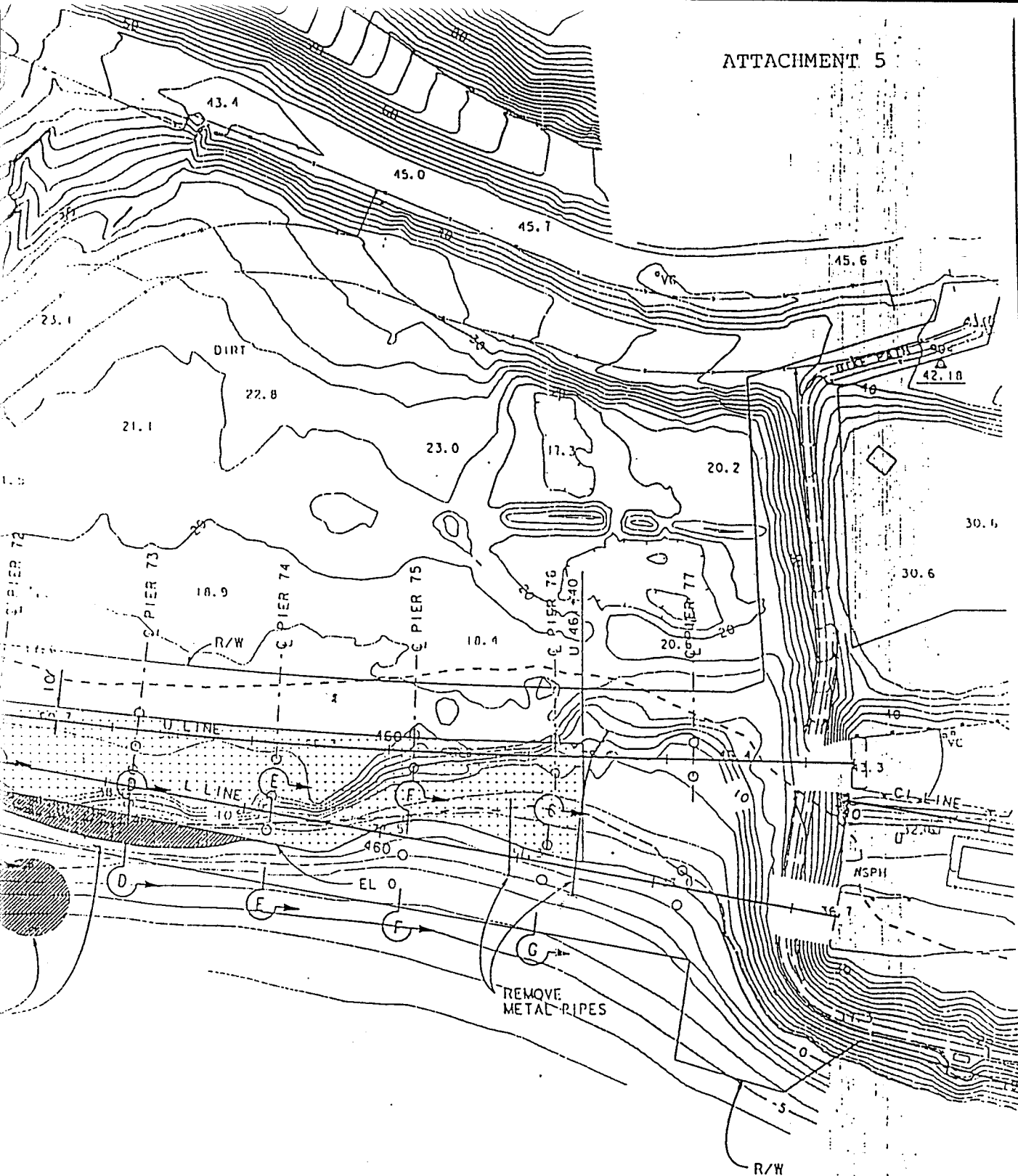


 = Peregrine Falcon Monitoring Area


Scale 1" = 1520'
Scale 1cm = 185m

Total approximate Bridge length = 21,312' (6,498m)

PEREGRINE FALCON MONITORING AREA



NOTE:

1. SEE STANDARD PLAN B13-2 FOR
ROCK SLOPE PROTECTION DETAILS
2. SEE CONSTRUCTION DETAIL SHEETS
FOR SECTION VIEWS

FIGURE 3
RICHMOND-SAN RAFAEL BRIDGE
SEISMIC RETROFIT PROJECT
SHORELINE RESTORATION - EAST END

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

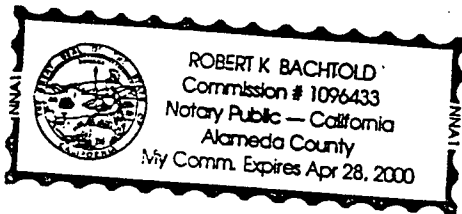
State of California

County of Alameda

On April 15, 1998 before me, Robert K. Bachold, Notary Public
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Denis Mulligan
Name(s) of Signer(s)

☒ personally known to me - OR - ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/~~she~~~~they~~ executed the same in his/~~her~~~~their~~ authorized capacity(~~ies~~), and that of his/~~her~~~~their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Robert K. Bachold
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- ☐ Individual
- ☐ Corporate Officer
Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☐ Attorney-in-Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

RIGHT THUMBPRINT
OF SIGNER
Top of thumb here

Signer Is Representing: _____

Signer's Name: _____

- ☐ Individual
- ☐ Corporate Officer
Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☐ Attorney-in-Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

RIGHT THUMBPRINT
OF SIGNER
Top of thumb here

Signer Is Representing: _____

NOTICE TO PERMITTEE

Please use the forms below to report the dates when you start and finish the work authorized by the enclosed permit. Also if you suspend work for an extended period of time, use the forms below to report the dates you suspended and resumed work. The second copy is for your records. If you find that you cannot complete the work within the time granted by the permit, please apply for a time extension at least one month before your permit expires. If you materially change the plan or scope of the work, it will be necessary for you to submit new drawings and a request for a modification of your permit.
(cut out as needed) -----
--

NOTICE OF COMPLETION OF WORK under Department of the Army permit No. 22065N

Date: _____

TO: District Engineer, US Army Corps of Engineers, Regulatory Branch, 333 Market Street, 8th Floor, San Francisco, CA 94105-2197

In compliance with the conditions of the permit dated April 17, 1998, to seismically upgrade the Richmond-San Rafael Bridge in Contra Costa and Marine counties, this is to notify you that the work was completed on _____.

Permittee: California Department of Transportation, Ken Terpstra

Address: P.O. Box 23660, Oakland, CA 94623-0660

Date: _____

NOTICE OF RESUMPTION OF WORK under Department of the Army permit No. 22065N

TO: District Engineer, US Army Corps of Engineers, Regulatory Branch, 333 Market Street, 8th Floor, San Francisco, CA 94105-2197

In compliance with the conditions of the permit dated April 17, 1998, to seismically upgrade the Richmond-San Rafael Bridge in Contra Costa and Marin Counties, this is to notify you that work was resumed on _____.

Permittee: California Department of Transportation, Ken Terpstra

Address: P.O. Box 23660, Oakland, CA 94623-0660

Date: _____

NOTICE OF SUSPENSION OF WORK under Department of the Army permit No. 22065N

TO: District Engineer, US Army Corps of Engineers, Regulatory Branch, 333 Market Street, 8th Floor, San Francisco, CA 94105-2197

In compliance with the conditions of the permit dated April 17, 1998, to seismically upgrade the richmond-San Rafael Bridge in Contra Costa and Marin Counties, this is to notify you that work was suspended on _____.

Permittee: California Department of Transportation, Ken Terpstra

Address: P.O. Box 23660, Oakland, CA 94623-0660

Date: _____

NOTICE OF COMMENCEMENT OF WORK, under Department of the Army permit No. 22065N

TO: District Engineer, US Army Corps of Engineers, Regulatory Branch, 333 Market Street, 8th Floor, San Francisco, CA 94105-2197

In compliance with the conditions of the permit dated April 17, 1998, to seismically upgrade the Richmond-San Rafael Bridge in Contra Costa and Marin Counties, this is to notify you that work was commenced on _____.

Permittee: California Department of Transportation, Ken Terpstra

Address: P.O. Box 23660, Oakland, CA 94623-0660